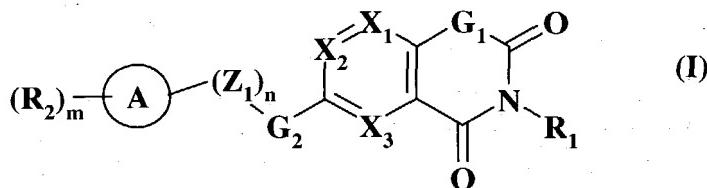


CLAIMS

What is claimed is:

1- A compound of formula (I):

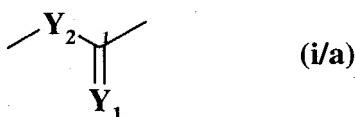


wherein:

- 5 • X₁, X₂, and X₃, independently of each other, represent a nitrogen atom or a group -CR₃ in which R₃ represents a group selected from hydrogen, (C₁-C₆)alkyl, amino, mono(C₁-C₆)alkylamino, di(C₁-C₆)alkylamino, hydroxy, (C₁-C₆)alkoxy, and halogen, it being understood that not more than two of the groups X₁, X₂ and X₃ simultaneously represent a nitrogen atom,

- 10 • G₁ represents an oxygen atom or a group S(O)_p in which p represents an integer from 0 to 2 inclusive,

- G₂ represents a group selected from carbon-carbon triple bond, C=O, C=S, S(O)_q in which q represents an integer from 0 to 2 inclusive, or a group of formula (i/a):



- 15 in which the carbon atom with the number 1 is attached to the bicyclic of the compound of formula (I), Y₁ represents a group selected from oxygen, sulphur, -NH and -N(C₁-C₆)alkyl, and Y₂ represents a group selected from oxygen, sulphur, -NH and -N(C₁-C₆)alkyl,

- n represents an integer from 0 to 6 inclusive,

- Z₁ represents -CR₄R₅, wherein R₄ and R₅, identical or different independently of each other, represent a group selected from hydrogen, (C₁-C₆)alkyl, trihalogeno(C₁-C₆)alkyl, halogen, amino, mono(C₁-C₆)alkylamino, di(C₁-C₆)alkylamino in which each alkyl moiety

is identical or different, $-OR_6$, $-SR_6$, and $-C(=O)OR_6$, in which R_6 is hydrogen atom or (C_1-C_6) alkyl, and

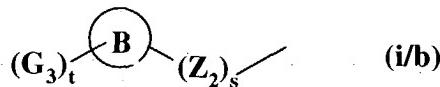
- wherein when n is greater than or equal to 2, the hydrocarbon chain Z_1 optionally contains one to two isolated or conjugated multiple bonds,

5 - and/or wherein when n is greater than or equal to 2 one of said $-CR_4R_5$ may be replaced with a group selected from oxygen, $S(O)_r$ in which r represents an integer from 0 to 2 inclusive, $-NH$ and $-N(C_1-C_6)$ alkyl,

10 • A represents a group selected from aryl, heteroaryl, cycloalkyl, and heterocycloalkyl, these groups being a 5- or 6-membered monocycle, or bicyclic itself composed of two 5- or 6-membered monocycles,

• R_1 represents a group selected from :

- hydrogen,
 - (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, these groups may be optionally substituted with one or more groups, which may be identical or different independently of each other, selected from amino, cyano, trihalogeno(C_1-C_6)alkyl, cycloalkyl, $-C(=O)NR_7R_8$, $-C(=O)OR_7$, OR_7 , and SR_7 , in which R_7 and R_8 , which may be identical or different independently of each other, represent hydrogen or (C_1-C_6) alkyl,
 - and the group of formula (i/b) :



20

✓ in which s is an integer from 0 to 8 inclusive,

25

✓ Z_2 represents $-CR_9R_{10}$ wherein R_9 and R_{10} , identical or different independently of each other, represent a group selected from hydrogen, (C_1-C_6) alkyl, phenyl, trihalogeno(C_1-C_6)alkyl, halogen, amino, OR_6 , SR_6 and $-C(=O)OR_6$ in which R_6 is as defined hereinbefore, and

- wherein when s is greater than or equal to 2, the hydrocarbon chain Z_2 optionally contains one or two isolated or conjugated multiple bonds,

- and/or wherein when p is greater or equal to 2, one of said $-CR_9R_{10}$ may be replaced with a group selected from oxygen, $S(O)_u$ in which u is an integer from 0 to 2 inclusive, $-NH$, $-N(C_1-C_6)alkyl$, and carbonyl,

5 ✓ B represents a group selected from aryl, heteroaryl, cycloalkyl, and heterocycloalkyl, these groups being a 5- or 6-membered monocycle, or bicyclic itself composed of two 5- or 6-membered monocycles,

✓ t is an integer from 0 to 7 inclusive,

10 ✓ the group(s) G_3 , which may be identical or different independently of each other, is (are) selected from $(C_1-C_6)alkyl$, halogen, CN , NO_2 , CF_3 , OCF_3 , $-(CH_2)_kNR_{11}R_{12}$, $-N(R_{11})C(=O)R_{12}$, $-N(R_{11})C(=O)OR_{12}$, $-N(R_{11})SO_2R_{12}$, $-N(SO_2R_{11})_2$, $-OR_{11}$, $-S(O)_{k1}R_{11}$, $-SO_2-N(R_{11})-(CH_2)_{k2}-NR_{12}R_{13}$, $-(CH_2)_kSO_2NR_{11}R_{12}$, $-X_4(CH_2)_kC(=O)OR_{11}$, $-(CH_2)_kC(=O)OR_{11}$, $-C(=O)O-(CH_2)_{k2}-NR_{11}R_{12}$, $-C(=O)O-(CH_2)_{k2}-C(=O)OR_{14}$, $-X_4(CH_2)_kC(=O)NR_{11}R_{12}$, $-(CH_2)_kC(=O)NR_{11}R_{12}$, $-R_{15}-C(=O)OR_{11}$, $-X_5-R_{16}$, and $-C(=O)-R_{17}-NR_{11}R_{12}$ in which :

15 - X_4 represents a group selected from oxygen, sulphur optionally substituted by one or two oxygen, and nitrogen substituted by a hydrogen or a $(C_1-C_6)alkyl$ group,

- k is an integer from 0 to 3 inclusive,

- k_1 is an integer from 0 to 2 inclusive,

- k_2 is an integer from 1 to 4 inclusive,

20 - R_{11} , R_{12} and R_{13} , which may be identical or different independently of each other, are selected from hydrogen and $(C_1-C_6)alkyl$,

- R_{14} represents a group selected from $(C_1-C_6)alkyl$, $-R_{17}-NR_{11}R_{12}$, $-R_{17}-NR_{11}-C(=O)-R_{17}-NR_{12}R_{13}$, and $-C(=O)O-R_{17}-NR_{11}R_{12}$ in which R_{17} represents a

linear or branched (C_1-C_6)alkylene group, and R_{11} , R_{12} and R_{13} are as defined hereinbefore,

- R_{15} represents a (C_3-C_6)cycloalkyl group,
- X_5 represents a group selected from a single bond, $-CH_2-$, oxygen, sulphur optionally substituted by one or two oxygen, and nitrogen substituted by hydrogen or (C_1-C_6)alkyl,
- R_{16} represents a group selected from :
 - o a 5- or 6-membered monocyclic aryl or heteroaryl, which is optionally substituted by one or more groups, which may be identical or different independently of each other, selected from (C_1-C_6)alkyl, halogen, hydroxy, cyano, tetrazolyl, amino, and $-C(=O)OR_7$ wherein R_7 represents hydrogen or (C_1-C_6)alkyl,
 - o and a 5- or 6-membered monocyclic cycloalkyl or heterocycloalkyl, which is optionally substituted by one or more groups, which may be identical or different independently of each other, selected from (C_1-C_6)alkyl, halogen, hydroxy, oxo, cyano, tetrazolyl, amino, and $-C(=O)OR_7$ wherein R_7 represents hydrogen or (C_1-C_6)alkyl,
- m is an integer from 0 to 7 inclusive,
- the group(s) R_2 , which may be identical or different independently of each other, is (are) selected from (C_1-C_6)alkyl, halogen, $-CN$, $-NO_2$, $-SCF_3$, $-CF_3$, $-OCF_3$, $-NR_7R_8$, $-OR_7$, $-SR_7$, $-SOR_7$, $-SO_2R_7$, $-(CH_2)_kSO_2NR_7R_8$, $-X_7(CH_2)_kC(=O)OR_7$, $-(CH_2)_kC(=O)OR_7$, $-X_7(CH_2)_kC(=O)NR_7R_8$, $-(CH_2)_kC(=O)NR_7R_8$, and $-X_8-R_{18}$ in which:
 - X_7 represents a group selected from oxygen, sulphur optionally substituted by one or two oxygen, and nitrogen substituted by hydrogen or (C_1-C_6)alkyl,
- k is an integer from 0 to 3 inclusive,

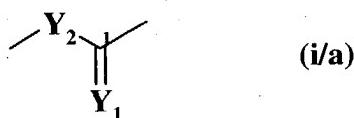
- R₇ and R₈, which may be identical or different independently of each other, are selected from hydrogen and (C₁-C₆)alkyl,

- X₈ represents a group selected from single bond, -CH₂-, oxygen, sulphur optionally substituted by one or two oxygen, and nitrogen substituted by hydrogen or (C₁-C₆)alkyl,

- R₁₈ represents a group selected from phenyl, a 5- or 6-membered monocyclic, heteroaryl, and a 5- or 6-membered monocyclic cycloalkyl, each of these groups being optionally substituted by one or more groups, which may be identical or different independently of each other, selected from (C₁-C₆)alkyl, halogen, hydroxy and amino,

or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein the compound of formula (I) is not 6-(2,4-dioxo-3,4-dihydro-2H-1,3-benzothiazine)-benzoate, 6-phenylthio-2,4-dioxo-3,4-dihydro-2H-1,3-benzothiazine, 6-benzylsulphonyl-2,4-dioxo-3,4-dihydro-2H-1,3-benzothiazine, 6-benzophenone-2,4-dioxo-3,4-dihydro-2H-1,3-benzothiazine or 6-(2,4-dihydroxy)-benzophenone-2,4-dioxo-3,4-dihydro-2H-1,3-benzothiazine.

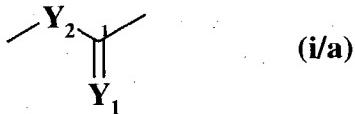
- 2- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein :
- G₁ represents a sulphur atom,
 - G₂ represents a group of formula (i/a):



in which the carbon atom with the number 1 is attached to the bicycle of the compound of formula (I), Y₁ represents an oxygen atom, and Y₂ represents a group -NH, X₁, X₂, X₃, n, Z₁, A, R₁, m and R₂ are as defined in formula (I).

3- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein :

- G_1 represents an oxygen atom,
- G_2 represents a group of formula (i/a):



5

in which the carbon atom with the number 1 is attached to the bicyclic of the compound of formula (I), Y_1 represents an oxygen atom, and Y_2 represents a group -NH, $X_1, X_2, X_3, n, Z_1, A, R_1, m$ and R_2 are as defined in formula (I).

4- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein :

- G_1 represents a sulphur atom,
- G_2 represents a carbon-carbon triple bond,
- n represents an integer from 1 to 6 inclusive,

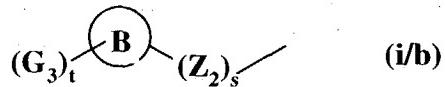
$X_1, X_2, X_3, Z_1, A, R_1, m$ and R_2 are as defined in formula (I).

15 5- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein :

- G_1 represents an oxygen atom,
- G_2 represents a carbon-carbon triple bond,
- n represents an integer from 1 to 6 inclusive,

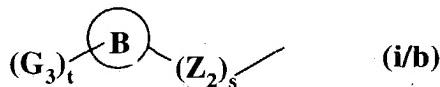
20 $X_1, X_2, X_3, Z_1, A, R_1, m$ and R_2 are as defined in formula (I).

6- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein R_1 represents a group of formula (i/b):



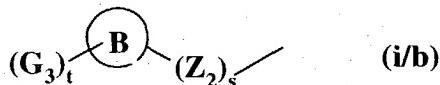
wherein Z_2, s, B, G_3 and t are as defined in the compound of formula (I).

7- The compound according to claim 6, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein R₁ represents a group of formula (i/b):



wherein Z₂ represents a group -CR₉R₁₀ in which R₉ and R₁₀ represents each a hydrogen atom, s is equal to one, and B, G₃, and t are as defined in the compound of formula (I).

8- The compound according to claim 7, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein R₁ represents a group of formula (i/b):



wherein B represents a phenyl group, t is equal to 0 or 1, and G₃, when it is present, represents a group selected from OR₁₁, halogen, and (CH₂)_kC(=O)OR₁₁ in which R₁₁ represents an hydrogen atom or a (C₁-C₆)alkyl group and k is equal to zero.

9- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein X₁, X₂, and X₃ represent each a group -CR₃ in which R₃ represents a hydrogen atom.

10- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein X₁ represents a group -CR₃ in which R₃ represents a hydrogen atom, X₂ represents a nitrogen atom or a group -CR₃ in which R₃ represents a hydrogen atom, and X₃ represents a group -CR₃ in which R₃ represents a hydrogen atom.

11- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein Z₁ represents -CR₄R₅ in which R₄ and R₅ represent each a hydrogen atom, and n is equal to one.

12- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein A represents a phenyl group, m is equal to zero or one, and R₂ represents a (C₁-C₆)alkoxy group or a hydrogen atom.

13- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein A represents a pyridyl group, m is equal to zero or one, and R₂ represents a (C₁-C₆)alkoxy group or a hydrogen atom.

5

14- The compound according to claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof, wherein A represents an imidazolyl group.

15- The compound according to claim 1 selected from:

- 10 - 3-benzyl-2,4-dioxo-3,4-dihydro-2H-benzo[e][1,3]thiazine-6-carboxylic acid 4-methoxy benzylamide;
- 3-(4-methoxybenzyl)2,4-dioxo-3,4-dihydro-2H-benzo[e][1,3]oxazine-6-carboxylic acid 4-methoxybenzylamide;
- and 4-[2,4-dioxo-6-(3-phenyl-prop-1-ynyl)-4H-1,3-benzothiazin-3-ylmethyl]-benzoic acid; or
15 a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof.

20 16- A method for treating a patient afflicted with a disease or disorder that is mediated by a MMP-13 enzyme, comprising administering to the patient an effective amount of a compound of claim 1, or a racemic form, isomer, N-oxide, or pharmaceutically acceptable salt thereof.

25 17- The method according to Claim 16, wherein the disease or disorder is selected from arthritis, rheumatoid arthritis, osteoarthritis, osteoporosis, periodontal diseases, inflammatory bowel disease, psoriasis, multiple sclerosis, cardiac insufficiency, atherosclerosis, asthma, chronic obstructive pulmonary disease, age-related macular degeneration, and cancer.

18- The method according to Claim 17, wherein the disease or disorder is arthritis.

19- The method according to Claim 18, wherein the disease or disorder is rheumatoid arthritis or osteoarthritis.

20- A pharmaceutical composition comprising as active ingredient an effective amount of a compound as claimed in claim 1, in combination with a pharmaceutically acceptable excipient or carrier.

21- The pharmaceutical composition according to Claim 20, wherein the compound as
5 claimed in claim 1 is a compound according to claim 2 or 4.